United States Patent [19]

Kohler et al.

[11] Patent Number: 5,206,903

[45] Date of Patent: Apr. 27, 1993

[54] **AUTOMATIC CALL DISTRIBUTION BASED ON MATCHING REQUIRED SKILLS WITH AGENTS SKILLS**

[75] Inventors: Joylee E. Kohler, Broomfield, Colo.; Eugene P. Mathews, Barrington, Ill.; Robert D. Nalbone, Thornton; Craig F. Palmer, Arvada, both of Colo.

[73] Assignee: AT&T Bell Laboratories, Murray Hill, N.J.

[21] Appl. No.: 633,918

[22] Filed: Dec. 26, 1990

[51] Int. Cl.⁵ H04M 3/00; H04M 3/42; H04Q 3/64
[52] U.S. Cl. 379/309; 379/201; 379/210; 379/214; 379/265; 379/266
[58] Field of Search 379/265, 266, 309, 212, 379/214, 201, 210, 211, 213, 233

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,400,587	8/1983	Taylor et al.	179/27 D
4,510,351	4/1985	Costello et al.	179/27 D
4,620,066	10/1986	Bushnell et al.	379/266 X
4,694,483	9/1987	Cheung	379/265 X
4,737,983	4/1988	Frauenthal et al.	379/221
4,757,267	7/1988	Riskin	379/201 X
4,757,529	7/1988	Glapa et al.	379/266 X
5,008,930	4/1991	Gawrys et al.	379/212 X

FOREIGN PATENT DOCUMENTS

0278259	12/1986	Japan	379/265

OTHER PUBLICATIONS

Bill Maikranz, "IBM's Callpath Explained", Inbound-/Outbound Magazine, Oct. 1989, pp. 15-18.
Keith Dawson, "The Smart Way to Handle Incoming Callers", Inbound/Outbound Magazine, May 1990, pp. 22-34.

Primary Examiner—James L. Dwyer
Assistant Examiner—Harry S. Hong
Attorney, Agent, or Firm—Michael A. Morra

[57] **ABSTRACT**

Automatic Call Distribution (ACD) equipment is improved by matching the information needs of an incoming caller with the particular expertise of a telemarketing agent who handles such calls. Each incoming call is assigned up to three prioritized skill numbers that estimate skill requirements of the calling party. Each agent possesses up to four skill numbers that represent various particular abilities of that agent. Numbers 1 through 9 are used. Upon arrival of the incoming call, a search is made for a match between the first caller skill number and an available agent possessing that skill. If no match is found, a similar search is made with respect to the second caller skill number. After a predetermined delay, a search is made with respect to the third caller skill number. When a match is found, the incoming call is connected to the agent possessing that skill. The longer that an incoming call remains unanswered, the larger the pool of agents becomes that will be allowed to handle the call. Although the specific expertise sought may not be matched, the present technique optimizes the matching process when a time constraint is imposed.

15 Claims, 9 Drawing Sheets